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CHARLES ELMORE

IN THE

Supreme Court of the United States

October Term, 1944

No. 656

SINCLAIR & CARROLL COMPANY, Inc.,
Petitioner,

v.

INTERCHEMICAL CORPORATION,
Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT, AND SUPPORTING BRIEF

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To the Honorable the Chief Justice and Associate Justices of the Supreme Court of the United States:

The petitioner prays that a writ of certiorari issue to review the judgment of the United States Circuit Court of Appeals for the Second Circuit, entered in this cause on August 28, 1944 (II,* p. 1094); petition for rehearing denied September 22, 1944 (II, p. 1120).

STATEMENT

This is an action for infringement of a patent covering a composition of matter, viz., a printer's ink. The respondent was plaintiff in the District Court.

* Roman numerals in parentheses indicate record volume.

The District Court found that the patent was invalid for want of invention and anticipation, and that the petitioner's ink did not infringe because not within the scope of the patent claims (II, pp. 1024-1051).

The Circuit Court of Appeals reversed the findings of the District Court, holding that there was invention, that the patent was valid, and that petitioner had infringed (II, p. 1094).

The Patent

The patent, No. 2,087,190 (II, p. 733) was issued to Albert E. Gessler, July 13, 1937, on an application filed July 14, 1932, forfeited April 10, 1936, renewed April 11, 1936, and assigned to respondent's predecessor. Claims 3, 10, 11, 12 and 13 are in suit. Claim 3, which is typical, and here used as the basis for discussion, is as follows:

> "3. A printing ink which is substantially non-drying at ordinary temperatures and dries instantly on heating of the printed matter, consisting of coloring matter dispersed in an organic viscous vehicle consisting of a liquid component and a solid component completely dissolved in the liquid component in sufficient quantity to give the ink the consistency of an ordinary oil-varnish printing ink—the solid component being a member of the group consisting of natural and synthetic resins and cellulose compounds, substantially all of the liquid component having a vapor pressure at 20° C. as low as that of diethylene glycol monobutyl ether at 20° C., and the major part of the liquid component having a vapor pressure which at 150° C. approximates that of ethyl alcohol at ordinary temperatures * and forming a stable solution with the solid component."

The patent is not for a process or method of using ink, but merely for a compound—an ink consisting of a pig-

* An indirect way of stating a vapor pressure of 40 mm., since the vapor pressure of ethyl alcohol at "ordinary temperatures" is given as 40 mm. in the patent (II, p. 733a, col. 1, l. 75—col. 2, l. 2).

ment, dispersed in a vehicle composed of a binder (solid component) dissolved in a solvent for the binder (II, p. 733b, cl. 3). The drying characteristics inherent in the solvent are imparted to and control the drying characteristics of the ink (II, p. 733a, ll. 4-9). The claimed ink, by reason of the solvent that is specified, has the attributes of being non-drying on the type or printing rolls at ordinary temperatures, and of drying almost instantly on application of heat to the printed paper. To obtain those desirable drying characteristics in the ink, the claims specify that the solvent (liquid component) in the ink shall have a vapor pressure* at 20° C. (about 70° F. or ordinary room temperature) of no higher than .02 mm. (that of diethylene glycol monobutyl ether, the trade name for which is butyl carbitol), and upon application of heat its vapor pressure shall rise so that at 150° C. its vapor pressure "approximates" 40 mm. (that being the vapor pressure at ordinary temperatures of ethyl alcohol). At that vapor pressure (40 mm.) the solvent evaporates rapidly, leaving the binder and pigment on the paper as the printed matter.

An ink so compounded may be used on modern, fast presses, through which the paper passes in a continuous strip, and especially where glossy, non-absorbent paper is used, as in magazines, provided such presses are equipped with a heater over which the paper passes after printing.

The patentee does not claim that he invented the idea of adding a heater to the press, nor does he claim that he discovered a solvent with the required evaporation characteristics. The only claim is that he was the first to compound an ink with such a solvent, and that his success resulted from invention and not from ordinary skill in the art.

---

* The pressure exerted against the atmosphere by any liquid in its effort to evaporate. The higher the vapor pressure the faster the evaporation. Vapor pressure and consequently evaporation rate may be increased by heat. The unit of measure is the number of millimeters of height of a column of mercury necessary to balance the vapor pressure at a given temperature, so that vapor pressure is expressed in mm. of mercury.

The Alleged Infringing Ink

Petitioner's ink contains a solvent* which has a vapor pressure at 20° C. as low as .02 mm., that specified in the claims, but at 150° C. its vapor pressure is only 20 mm., which is substantially the same as that of *water* at ordinary temperature, and only *half* that specified in the claims (I, pp. 56, 281, 295, 306, 317, 318). Thus, petitioner's ink solvent at 150° C. does not become a "highly volatile liquid like such highly volatile liquids as, for example, ethyl alcohol . . . at ordinary room temperature" (20° C.) as specified in the patent (II, p. 733a, col. 1, l. 73—col. 2, l. 2); on the contrary, at that temperature (150° C.), petitioner's ink solvent is no more volatile and has no higher rate of evaporation than water at ordinary room temperature (20° C.). It cannot be used successfully in presses equipped with the steam drum type of drying apparatus of the type with which Gessler was familiar when his application was filed, where the degree of heat developed is limited to about 150° C., because petitioner's ink does not dry rapidly enough. It can be used successfully only in presses equipped with the new oven or flame type heaters, introduced in 1937, which develop temperatures of 1700° F. (over 900° C.) (I, pp. 550-1).

QUESTIONS PRESENTED

Three principal questions are presented:

1. Did it require invention, within the meaning of the Patent Statute, R. S. 4886 and the applicable decisions of this Court, to compound the ink of Gessler's patent?

The patentee claims to be the first to have compounded a printer's ink which, because of the solvent used, has such low volatility at ordinary temperatures that it remains wet indefinitely on type or printing rolls, but be-

*A petroleum (paraffin hydrocarbon) derivative from the kerosene series, and known as "502 C oil" (I, pp. 56, 57, 383, 408).

comes so volatile on application of heat after printing that it dries instantly. He does not claim that the use of heating devices on presses was his invention, nor does he claim to have discovered or produced a solvent of the required drying characteristics. He merely asserts that he was the first to compound an ink with such a solvent. The petitioner contends that no invention was required to compound such an ink; that prior patents disclosed inks compounded with solvents having the specified vapor pressure characteristics, that such solvents were readily available, and that in the light of the disclosures of the prior art, the production of Gessler's ink required at most only ordinary skill in the art.

2. If the patent is valid, may the claims thereof, which specify inks containing a solvent having a vapor pressure which at 150° C. "approximates that of ethyl alcohol at ordinary temperatures" (viz., 40 mm.), be construed to include such inks as petitioner's, which use a solvent having a vapor pressure at 150° C. of only 20 mm., which is substantially the vapor pressure of water at ordinary temperatures?

The precise question is whether, in Gessler's claims, a vapor pressure of 20 mm. "approximates" one of 40 mm. The Court of Appeals stretched the word "approximates" to that extent. Petitioner claims that the record shows that in selecting 40 mm. as about the vapor pressure to be reached at 150°, the patentee meant to go as low as he could so as to include all solvents which would work with the highest degree of heat he thought practicable to apply to the printed paper, viz., 150° C. and to *exclude* those solvents which at *that temperature* were not highly volatile liquids, comparable in volatility (at that temperature) to ethyl alcohol at room temperature; that he never conceived of the use of the type of heater (developing temperatures as high as 900° C.), which is necessary to dry petitioner's ink rapidly; and that the word "approximates" as here used does not permit a tolerance so wide as 20 mm., so as

to include solvents comparable in volatility at 150° C. to water at ordinary temperature. Conversely, petitioner contends that if Gessler's claims can be stretched to include inks using a solvent with a vapor pressure of 20 mm. at 150° C., such claims are defective under Sec. 4888 R. S., and the applicable decisions of this Court, because they do not define Gessler's invention with the definiteness and particularity required, and do not warn the public that such an ink would infringe.

3. Did the Circuit Court of Appeals, in reversing the findings of the District Court, fail to conform to Rule 52(a), Federal Rules of Civil Procedure which states that "Findings of fact shall not be set aside unless clearly erroneous"? This question is directly related to the two preceding questions.

FACTS

Modern high speed printing presses into which is fed a continuous "web" or strip of paper, which is printed by contact with rapidly revolving rollers, are and have been for many years in common use. Ink used in such presses must be of a kind which stays moist indefinitely at room temperatures and does not dry on the printing rollers and type. When printed on absorbent paper, such as newsprint, it is not necessary that the ink dry quickly after printing. The paper absorbs the ink, and after the paper is printed on one side, it may pass immediately over other rollers and be printed on the other side, and then pass immediately to cutting and folding devices, all without smearing or smudging. Printing on non-absorbent, or glossy paper, generally used in magazines, presents a different problem. When printed on one side of the paper, the ink is not absorbed, and if it remains wet, it is easily smudged or rubbed off. Printing on the other side must be delayed until the ink is dried. An ink which

dries quickly at room temperatures cannot be used, as it dries equally quickly on the rollers and type. Prior to 1932 printing of magazines on glossy or non-absorbent papers was not done on the high speed presses such as are used for newspapers, but usually sheets, not continuous strips, were pressed on flat plates, and after printing one side, were laid aside for a time until dry and then printed on the other side, and after that the cutting and folding were further delayed (I, pp. 587, 588, 592).

Solvents for use in inks, and which would stay wet on the rollers and type but would dry instantly on application of heat, had long been available, and inks containing such solvents had been known and made (I, pp. 251, 266, 281-288, 321, 322, 690; II, pp. 957, 961, 985-7), but no one seems to have provided the fast presses with heating devices to instantly dry the ink after printing so as to permit use of such presses on non-absorbent paper (I, pp. 73, 74, 154, 513, 515, 551, 588, 590, 605, 606).

In 1930 Gessler, a chemist, was employed by Zinsser & Co., makers of chemicals, pigments and dyes (I, p. 109). Frank W. Cray was in the printing ink business with Cray-Finne Corporation, with which Gessler's company did business. In June, 1930, Cray asked Gessler to prepare an *odorless* printing ink, and Gessler prepared some samples (I, pp. 72, 109, 702). In this work, Gessler wanted an odorless solvent which would stay wet at ordinary temperatures. To find it, he examined the catalogues of Carbide & Carbon Chemicals Corporation, a manufacturer of chemical products, and found advertised there three solvents suitable for ink, which he tried out. He discarded two and finally selected butyl carbitol (I, pp. 719-722). Gessler observed from the catalogue (II, pp. 985-8) that butyl carbitol had a mild odor, and that it had a vapor pressure of only .05 mm. at 20° C., and a boiling point of 222° C., and therefore would not dry at room temperature. He selected it as a solvent for an odorless ink which would stay wet on the rollers and type and not

harden on the press. This odorless ink was unsatisfactory because it stayed wet too long on the paper (I, pp. 72-3). At that time (1930) Gessler was not interested in whether the ink would dry on application of heat, and no suggestion for putting a heating device in the press was made. However, early in 1932 Cray thought of heat for drying the ink and again went to Gessler, as he testified (I, p. 73):

> "So I got hold of Dr. Gessler, and I discussed that point with him. I said, 'Could you make me an ink that would be dry after being printed? *We can put it over some kind of a heating device.*' He said, 'Yes, I think we could.' He said, 'In fact, one of those inks I made for you in the beginning would do that.'" (Italics ours.)

It was as easy as that. The old samples of odorless ink made in 1930 were found to have dried up, so in February, 1932 Gessler made up new samples, and as Cray said, "I was able to make a print of that and pass that print over a hot plate and dry the ink. From there on we went to work" (I, p. 74).

Of this incident Gessler said:

> "Q. Did Mr. Cray ask you to furnish him an ink which could be used on a press provided with a heater? A. Yes, he did" (I, p. 706).

Again:

> "And now, when Mr. Cray came, in the year 1932, and told me that heating units, steam-heated rollers are used on printing presses, that was the last key that I needed for the solution of the problem. I had not known that before, and I knew that if I could apply any heat to the thin film of those inks that they would dry almost instantaneously" (I, pp. 708-9).*

* Cray had not said that heated rollers were in use, but that they could be supplied.

The record shows that it was Cray, not Gessler, who thought of using heating devices on the press, and that solvents for ink, with the required characteristics were well known, made by others, not Gessler.

The patent, of course, is for a printing ink, and not for a method or process, or for the use of a heater. The claims cover every ink containing a solvent, which has the specified vapor pressures at ordinary temperature (20° C.) and at elevated temperature (150° C.), *regardless of why it is put in the ink.*

No invention was required to compound such an ink. With solvents having the requisite vapor pressure characteristics available, and with the teachings of the prior art patents before him, any experienced ink compounder could have produced Gessler's ink as soon as the demand arose, by exercising only ordinary skill of a very low order.

Prior Patents and Publications

Patent No. 1,439,696, issued to Doughty in 1922 (II, p. 961), covered a composition of ink. The inventor had in mind particularly an ink with metallic pigments suitable for stamping titles and designs on bookbinding, but also "for other purposes to which the ink may be adapted" (II, p. 961, ll. 12-17). He stated:

> "A difficulty which has prevented the use of metallic pigment inks is due to vehicles which dry too rapidly on the inking rolls, covering them generally with a gummy coating which prevents transfer of the ink to the type or die. In avoiding this extreme it is necessary to provide an ink which when once applied will dry rapidly.
>
> "It is the object of the invention to provide an ink and an ink vehicle having the necessary properties, among others comparative slowness in drying without a tendency to become gummy, a consistency permitting transference of the ink through inking rolls to the

type or die, rapid drying when applied to the work, and ability to protect the pigment from oxidation and consequent discoloration.

"I have discovered that these desirable properties may be imparted to the ink by the use of a suitable medium in the vehicle for the pigment and that such a medium will, moreover, permit rapid drying of the ink by the application of heat to the type or die" (II, p. 961, ll. 38-61).

Doughty stated that the medium (solvent) should be "capable of being vaporized . . . but its boiling point should be relatively high to reduce vaporization at atmospheric temperatures, and consequently to prevent rapid drying on the inking rolls" and that "Solvents boiling materially below 200° C. are unsuitable because the ink dries too rapidly on the rolls" (II, p. 961, ll. 62-75).

Among suitable solvents Doughty named terpinyl acetate (II, p. 961, l. 90). It has the same vapor pressure as butyl carbitol, viz., about .02 mm. at ordinary temperatures, and about 60 mm. at 150° C., and has a boiling point of about 222° C. (I, pp. 306-8; II, p. 1101; III, Exs. D-1, E-1).

Doughty's idea of a heating device to dry the ink after printing was to heat the type or die itself and apply heat that way. He stated:

"The ink dries very slowly at atmospheric temperature owing to the high boiling point of the volatile solvent. It dries rapidly, however, when applied with a heated die" (II, p. 962, ll. 58-61).

His specifications teach unmistakably that a composition of ink which is not volatile at room temperatures, and hence non-drying on the inking rolls or type, but which will dry quickly by application of heat after printing, may be made by the use of a solvent, non-volatile at room temperature, but with a boiling point between 200° C. and 300° C. If Doughty's patent had been later than Gessler's, the inks disclosed therein would clearly infringe Gessler's claims.

The patent to Lefferts and Stevens, No. 380,654, issued in 1888 (II, p. 957), covers a composition of ink. Lefferts' specifications teach the use of heat after printing for drying, and solvents which keep the ink from drying before printing (II, p. 958, ll. 62-68, 75-80, 109-114). True the primary purpose was to produce an ink with a solvent which would dissolve celluloid surfaces on which printing is done, and cause the ink to penetrate the printed surface, just as butyl carbitol is a celluloid solvent (II, p. 987). The patent recommends oil of cassia as a solvent for an ink and claims 3 and 5 cover that ink (II, p. 958, ll. 33-44, 103; p. 959, ll. 6, 108, 118). The oil of cassia available today has a vapor pressure as low as .02 mm. at 20° C. and of 40 mm. at 150°. Hence Lefferts' oil of cassia ink comes squarely within the terms of Gessler's claims and if made today would infringe Gessler's patent (I, pp. 280-2, 307-8, 321-2; III, Ex. P, E-1). The Court of Appeals brushed this patent aside because there was no proof that the oil of cassia of 1888 had the same characteristics.

The patent to Jirousek, No. 1,954,627, applied for April 18, 1932 (II, p. 983) was rejected by the Court of Appeals as not being a proper reference against Gessler, because although Jirousek described heat drying ink, the ink also contains some linseed oil, which Gessler excludes. But Jirousek's specifications are pertinent as bearing on the question whether Gessler did more than exercise ordinary skill.* Jirousek's patent discloses ink containing solvent mixtures which remain wet at normal temperatures, which have high boiling points, and which dry quickly on application of heat (II, p. 983, ll. 71-78, 97-103; p. 984, ll. 8-15; I, pp. 313-5, 415-6, 419, 427-9, 468).

The article by M. E. Hansen, published in Printing Equipment Engineer in December, 1931 (II, p. 990), was discarded by the Court of Appeals as merely stating the problem without giving a solution. In Hanson's statement of the characteristics desired for a plastic ink "for

* *Alexander Milburn Co. v. Davis-Bournonville Co.*, 270 U. S. 390, 401.

rapid drying", he included the requirements that the ink would not dry on the rolls at room temperature, but would "dry in a small fraction of a second" on application of heat to the printed sheet. He did more than merely state the problem. He pointed out that the solution of the problem is found in the use of solvents having evaporation characteristics such that, at room temperature, the ink does not dry, but dries instantly on application of the highest heat that can be practically applied. Hanson's article is really a suggestion that chemical manufacturers conduct further research to produce the desired solvents. He evidently had not examined the 1929 and 1930 catalogues of Carbide and Carbon Chemicals Corporation (II, pp. 985-988) which revealed the very solvents required.

With Hanson's article and some of the prior patents before him, the Carbide and Carbon Chemicals Corporation's catalogue in his hand, and in his mind Cray's great news that a heating device could be attached to a fast press, Gessler did not need to exercise more than a very low order of skill in the art to prepare the desired composition of ink.

Infringement

The principal issue bearing on the question of infringement is whether on a fair interpretation of the word "approximates" in the patent claims, a solvent having a vapor pressure of only 20 mm. at 150° C. (the vapor pressure of water at ordinary temperatures) has a pressure which "approximates" 40 mm. (the vapor pressure of ethyl alcohol at ordinary temperatures).

The theory of the Court of Appeals for holding that 20 mm. "approximates" 40 mm., is that since Gessler clearly intended to cover inks containing butyl carbitol, which has a vapor pressure at 150° of 60 mm., and since a vapor pressure of 60 mm. is 20 mm. *above* 40 mm., a

solvent with a vapor pressure of 20 mm. *below* 40° was intended to be included (II, p. 1105). This specious reasoning not only disregards the express provisions of the statute, R. S. 4888, and the explicit rulings of this Court, requiring definiteness in patent claiming, but it is refuted by the record. The file wrapper and Gessler's patent (II, pp. 769-944) discloses that he never intended to include in his invention inks using solvents having a vapor pressure at 150° C. of 20 mm. and therefore being at that temperature no more volatile than water at ordinary temperatures. He was interested only in solvents which, at 150° C. become "highly volatile" liquids, such as is ethyl alcohol at ordinary temperatures (II, p. 733a, col. 1, l. 73–col. 2, l. 2, and pp. 886, 890-1). In his early claims, Gessler had described his solvents in terms of function, not in terms of specific physical attributes (II, p. 778). He was pressed by the Patent Office to adopt a different type of description and thus it came about that his claims describe his solvents in terms of vapor pressure at various temperatures (II, pp. 781, 799).

Gessler had in mind butyl carbitol which, at 150° C., has a vapor pressure of 60 mm. (II, p. 733a, col. 1, l. 71). It is the only solvent mentioned in his specifications or claims. It was the only solvent he had then located which was suitable (I, pp. 707, 720). Inasmuch as he wanted to cover every other solvent which might later be used or discovered, he naturally made his vapor pressure at 150° as low as he could when pressed by the Patent Office to be specific, and so he selected for the vapor pressure to be "approximated" as low a one as would work with the degree of heat he then thought practicable to apply. That vapor pressure at 150° C. was 40 mm., well below that (60 mm.) of butyl carbitol at 150° C. He chose that low vapor pressure because he then was thinking in terms of the use of a steam-heated drum or roller on the press, which he knew could not be heated beyond 150° C. without damaging the paper (II, pp. 890-1).

As petitioner's ink has a vapor pressure of only 20 mm. at 150° C., it is necessary, in order to dry it instantly, to use devices (other than steam-heated drums or rollers), which develop temperatures of around 1700° F. (over 900° C.), and thus make available, for drying purposes, temperatures much higher than the 150° C. which is available with a steam-heated drum or roller (I, pp. 550-1). The highest temperature Gessler mentioned in his patent is 150° C. He there speaks of solvents "highly volatile" at 150° C. (II, p. 733a, col. 1, ll. 5, 6, 72-5, col. 2, l. 16). The record shows he was always thinking of *steam-heated* rollers in the press. Thus, Gessler said (I, pp. 708-9) that in 1932 he learned from Cray that steam-heated rollers could be used. In his written disclosure of April 4, 1932, he speaks again of steam-heated rollers (II, p. 763, l. 19). He used steam-heated rollers in his experiments in 1932 (I, p. 722).

Cray was using steam drums in May, 1932, heated to 237° F. (114° C.). (I, pp. 74, 77).

Cray and Gessler used steam drums at Curtis Publishing Company in November, 1932 (I, p. 79).

Steam drums can be heated to 245° F. (118° C.) without damaging paper if the paper travels fast enough (I, pp. 205-6).

In the file wrapper, Gessler's attorney stated (II, p. 790):

> "The temperature of the printed material when it passes, for instance, over a heated roller, lies between 100° C. and 150° C., and it is evident that practically instantaneous evaporation of the ink (solvent) takes place. . . ."

Again (II, p. 840) in the file wrapper, in discussing McElroy's patent, Gessler's attorney stated that a temperature of 500° F. (260° C.) "is much higher than that which could be used in the successful operation of applicant's process". At page 890 in the file wrapper Gessler's attorney stated:

> "To accomplish the results obtained by applicant's ink, no solvent can be equivalent to this solvent, if it has a vapor pressure substantially higher than 0.06 mm. at 20° C., for in this case the ink would dry on the press, or if it has a comparatively low vapor pressure at 150° C., as in this case, it could not be vaporized instantly by any heat which can safely be applied to printing matter."

It was the new "flame type" of heater which made inks containing solvents with vapor pressures as low as 20 mm. at 150° C. usable for the first time in fast presses. They develop from 1500° F. to 1900° F. (815° to 1040° C.) in the heater (I, pp. 556-1, 606, 68, 92). The first practical oven or flame heater was introduced in 1937 (I, p. 551), before petitioner's ink was placed on the market. Hot as these "flame type" heaters are, they have been developed so that they can be used without damage to paper running at high speeds (I, pp. 68, 70, 94).

The record plainly shows that, if Gessler's claims have captured solvents as non-volatile at 150° C. as water is at ordinary temperatures (20° C.), Gessler has found himself unexpectedly the possessor of a monopoly with a scope far beyond his conception at the time his patent issued.

Specification of Errors

The Circuit Court of Appeals erred:

1. In holding that Gessler made an invention and that his inks resulted from anything more than the application of ordinary skill in the art.

2. In holding that the petitioner had infringed and in construing the statement in the claims that the solvent must have a vapor pressure at 150° C. which "approximates" .40 mm., to include one having a vapor pressure

of only 20 mm. at 150°. It overlooked the point that with such a broad application of the claims they fail to comply with Sec. 4888 R. S. requiring that the invention be clearly and exactly defined.

3. In setting aside the findings of the trial court, despite Rule 52(a), Federal Rules of Civil Procedure, which states that such findings shall not be set aside unless "clearly erroneous".

Reasons for Granting the Writ

This case has a definite public interest. The use of the solvents developed by Carbide and Carbon Chemicals Corporation and other manufacturers, in inks, together with the use of heating devices on printing presses, has resulted in enabling the publishers of magazines like Collier's, Saturday Evening Post, Life, New Yorker, and innumerable others, to speed up their printing, with the result that the sustaining of Gessler's patent enables his assignee to exact a monopolistic tribute from ink manufacturers, and therefore magazine publishers and readers, when Gessler himself never thought of the use of a heating device and never developed or invented any solvent, and really invented nothing. In these circumstances, the discretionary power of this Court is invoked upon the following grounds, which fall within one or more of the classes described in paragraph 5 of Rule 38 of the Rules of this Court.

1. In upholding the monopoly of a patent to Gessler for an ink compound consisting of coloring matter dispersed in a vehicle composed of a binder dissolved in a solvent having specified evaporation characteristics, the Court below has decided a question of Federal law in conflict with a long line of applicable decisions of this Court, which established firmly the rule that the monopoly of a

patent cannot be obtained for an improvement which requires only ordinary skill in the art.

II. In upholding the Gessler patent and construing the Gessler claims so broadly as to be infringed by petitioner's ink, the Court below has sustained as valid patent claims which fail to comply with the requirements of R. S. 4888 and the applicable decisions of this Court in that they do not particularly point out and distinctly claim the patentee's invention.

III. In reversing the findings of fact of the District Court, the Circuit Court of Appeals failed to conform to Rule 52(a) of the Federal Rules of Civil Procedure providing that findings of fact shall not be set aside unless clearly erroneous.

Prayer

WHEREFORE, your petitioner respectfully prays that a Writ of Certiorari be issued to the Circuit Court of Appeals for the Second Circuit to the end that this cause may be reviewed and determined by this Court; that the judgment of the Circuit Court of Appeals for the Second Circuit be reversed, and that petitioner be granted such other and further relief as may be proper.

Respectfully submitted.

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Of Counsel.

BRIEF IN SUPPORT OF THE PETITION

Opinions Below

The District Court's opinion (II, p. 1024) is reported in 50 F. Supp. 881. His findings are in Vol. II, p. 1048, of the record.

The opinion of the Circuit Court of Appeals (II, p. 1094) is not yet reported.

Jurisdiction

The judgment of the Circuit Court of Appeals was entered August 28, 1944 (II, p. 1094). Petition for rehearing was denied September 22, 1944 (II, p. 1120).

Jurisdiction to issue the writ rests on Section 240(a) of the Judicial Code, as amended by the Act of February 13, 1925 (28 U. S. C. 347).

Statement

The facts and rulings material to the consideration of the questions presented are fully stated in the foregoing petition.

Summary of Argument

The Points of the Argument follow the reasons relied upon for the allowance of the writ.

ARGUMENT

I. The decision of the Circuit Court of Appeals below upholds the monopoly of a patent to respondent for an improvement which, at best, requires only a low order of skill in the art to produce.

This Court has steadfastly adhered to the rule that a private grant on the public domain must be supported by the exercise of invention and not merely the skill of the calling. *Cuno Engineering Corp.* v. *Automatic Devices Corp.*, 314 U. S. 84, 91; *Altoona Publix Theatres* v. *American Tri-Ergon Corp.*, 294 U. S. 477, 486; *Atlantic Works* v. *Brady*, 107 U. S. 192, 200; *Hotchkiss* v. *Greenwood*, 11 How. 264, 267.

This case is controlled by the rule expressed in the cases cited. Gessler's ink compound, at best, required a very low order of skill for an ink compounder. As he himself stated, the suggestion of Cray that a heating device could be attached to the printing press was the key to the whole problem (I, pp. 708-9). Gessler did not conceive of the use of a heating device on the press; that was Cray's contribution (I, pp. 73, 708). Gessler did not make or invent any solvent; that was the contribution of Carbide & Carbon Corporation which had not only developed the solvent Gessler selected but had introduced it on the market and publicized those very attributes which caused Gessler to select it for his ink (I, p. 720-1; II, p. 987). When the need arose, and given the idea of a heating device on the press, and a catalogue of a solvent manufacturer advertising solvents substantially non-drying at ordinary temperatures but drying rapidly at 150° C. or thereabouts, Gessler's ink was forthcoming immediately. Only the skill of the art and not invention was required to adapt the Carbide and Carbon Chemicals Corporation's solvent (or other available solvents) to the familiar types of printers'

ink to secure the desired result. *Altoona Publix Theatres v. American Tri-Ergon Corp.*, 294 U. S. 477, 488. It was so easy and apparent that Gessler's immediate answer to Cray as he posed the "problem" was that he could do it (I, pp. 707, 73). The credit, if any, for this development belongs to Cray and to the solvent manufacturers; not to Gessler or respondent.

Gessler made a strained effort to show that between 1930, when he made his useless "odorless" ink with butyl carbitol as the solvent, and 1932, when Cray told him that heating devices could be used on the press to dry the ink, he had worked and puzzled over the problem (I, pp. 707-9). It was a somewhat flimsy effort. His complete failure was due to the fact that the use of a heating device did not occur to him. He was thinking of an ink which would stay wet on the type but dry instantly after printing *without the application of heat*—an impossible conception, and he made no progress. Had he been successful in those efforts, the resulting ink might well have been an invention; but compounding Gessler's heat-drying ink merely by selecting a solvent with the drying characteristics desired for the ink required nothing more than a very low order of skill of the calling. A skilled ink compounder merely selects those ingredients which fit his needs (I, pp. 94-6, 130, 173, 227, 513). Gessler, with the prior art before him and, in his mind, Cray's suggestion to use heating devices to dry the ink, had merely to pick and choose from available ingredients to compound his ink. In this connection, Doughty patent No. 1,439,696 (II, p. 961), disclosed heat-drying ink and specified terpinyl acetate as a suitable solvent (II, p. 961, ll. 88-91). That solvent has a vapor pressure as low as .02 mm. at ordinary temperature (20° C.) and 60 mm. at 150° C., squarely within Gessler's range (I, pp. 307-8, 321; III, Ex. E-1, D-1). Lefferts and Stevens patent No. 380,654 (II, p. 957), disclosed heat-drying inks using the solvent oil of cassia

(II, p. 958, ll. 34, 103; p. 959, ll. 6, 107, 118), which exhibits vapor pressures as low as .02 mm. at ordinary temperature (20° C.) and 40 mm. at 150° C., also squarely within Gessler's range (I, pp. 279-282, 321; III, Ex. P, Q). The Carbide and Carbon Chemicals Corporation catalogue (II, pp. 986-7) fully described the solvent Gessler finally selected. As soon as Cray told Gessler in 1932 of the fact that heating devices could be used on the presses the answer was forthcoming immediately.

No more skill was required of Gessler to compound his ink than was required of Vogt in *Altoona Public Theatres v. American Tri-Ergon Corp., supra*, to adapt a flywheel to an apparatus for recording and reproducing talking pictures to assure greater accuracy and precision of film movement. In holding Vogt's patent invalid, this Court said (294 U. S., at p. 486):

> "An improvement to an apparatus or method, to be patentable, must be the result of invention, and not the mere exercise of the skill of the calling or an advance plainly indicated by the prior art.
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> "• • • the record fails to show that there was any long-felt or generally recognized want in the motion picture industry for the device defined by the flywheel claims, or that the use of sound motion pictures was delayed by the inability of those skilled in the art to add a flywheel to the apparatus in order to give the desired uniformity of motion to linear phonograms. • • • When the need arose for a mechanism suitable to move film records with such speed-constancy as to reproduce the sound successfully, it was forthcoming. Only the skill of the art was required to adapt the flywheel device to familiar types of mechanism to secure the desired result."

This case is directly in point. The record here fails to show that there was any long-felt or generally recognized want for a heat-set ink, and that as soon as the want was

expressed and the availability of heating apparatus on the press recognized, a satisfactory ink was forthcoming immediately.

The necessity for strict adherence to the rule which excludes those devices or compounds requiring merely the skill of the calling from the reward of a private grant on the public domain was clearly stated by the Court in *Cuno Engineering Corporation* v. *Automatic Devices Corp.*, *supra*. There the Mead patent for a thermostatically controlled cigar lighter was held invalid because all that the patentee had done was to adapt the thermostatic heat controls of the prior art to a cordless cigar lighter. The resulting device, while admittedly "new and useful" was held to be the result of skill which "did not reach the level of inventive genius which the Constitution, Art. 1, Sec. 8, authorized Congress to reward". As the Court there said (314 U. S., at p. 84):

> "Strict application of that test is necessary lest in the constant demand for new appliances the heavy hand of tribute be laid on each slight technological advance in an art. The consequences of the alternative course were forcefully pointed out by Mr. Justice Bradley in Atlantic Works *v.* Brady, 107 U. S. 192, 200, 'Such an indiscriminate creation of exclusive privileges tends rather to obstruct than to stimulate invention. It creates a class of speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the industry of the country, without contributing anything to the real advancement of the arts. It embarrasses the honest pursuit of business with fears and apprehensions of concealed liens and unknown liabilities to lawsuits and vexatious accountings for profits made in good faith.' . . ."

Unless this Court is receding from the rule established by these cases—that patent monopolies will not be sus-

tained for improvements requiring only ordinary skill—the decision of the Court of Appeals in this case is manifestly in conflict with the controlling decisions of this Court.

In a recent case (*Goodyear Tire & Rubber Co. v. Ray-O-Vac Co.*, 321 U. S. 275) the Court, closely divided, went to the verge of departure from this rule in sustaining as invention a rather simple device for a leak-proof dry cell battery. However, the decisive feature of that case was the application of the rule that if both the District Court and the Circuit Court of Appeals concur in their findings, in a close case, this Court will not overturn them. In the case at bar the two courts below disagreed.

In these circumstances, the decision in the *Ray-O-Vac* case can hardly be accepted as a departure from earlier decisions of this Court as to the difference between invention and ordinary skill in the art—unless decisions like the one here assailed are allowed to stand.

II. The decision of the Circuit Court of Appeals sustained as valid patent claims which, when construed to cover petitioner's ink, fail completely to particularly point out and distinctly claim the patentee's invention as required by the express provisions of R. S. 4888 and the applicable decisions of this Court.

Gessler's claims specify an ink in which the solvent ingredient has a vapor pressure of .02 mm. or less at ordinary temperature (20° C.) and a vapor pressure at 150° C. which "approximates" 40 mm. (the vapor pressure of ethyl alcohol at ordinary temperature). Respondent's solvent (I, p. 281) has a vapor pressure at 150° C. of only 20 mm. (the vapor pressure of water at ordinary temperature). The Court of Appeals held that 20 mm. vapor pressure "approximates" 40 mm. vapor pressure (II, p. 1105). It had to stretch the word "approximates" that far to find infringement.

Gessler's claims, construed so broadly, do not particularly point out and distinctly claim Gessler's alleged invention.

The record (discussed in detail at pp. 12 to 15 of the petition) clearly shows that Gessler intended the word "approximates" in his claims to define, with reasonable certainty, the lower limit of vapor pressure for his solvent at 150° C., and that by "approximates" he meant very close to 40 mm. He did not intend to include solvents, such as petitioner's petroleum solvent which, at 150° C. has a vapor pressure of only 20 mm. He was satisfied to include only those solvents which at 150° C. become "highly volatile liquids as, for example, ethyl alcohol"—solvents which would volatilize rapidly at temperatures between 100° C. and 150° C. (II, p. 733a, col. 1, l. 73–col. 2, l. 2). These are the temperatures with which Gessler's patent deals—the temperatures to which steam-heated rollers, which were the only heating devices with which Gessler had worked at the time (1932) and the only type suggested to him by Cray, could be heated without damaging the paper (I, pp. 77, 205-6). He had no conception that solvents which, at 150° C. were no more volatile than water, could be used in heat drying inks because he was not then familiar with the "flame" or "oven" type heater (introduced in 1937) which develops temperatures in excess of 1700° F. (over 900° C.) and which is necessary for the successful use of petitioner's ink (I, pp. 550-1). Hence, when Gessler chose a vapor pressure which "approximates" 40 mm. as the lower limit of vapor pressure at 150° C. for his solvent, he meant what he said—that the lower limit of volatility for his solvent at 150° C. had to be very close to 40 mm.

So construed, the patent claims satisfy the statutory requirements for definiteness and particularity, and serve to warn the public of what would and would not infringe. But, if the word "approximates" in the claims is accorded a "leeway of at least 20 mm." as the Court

of Appeals below has held, on the theory that when the patent says "approximates" 40 mm. it means "approximate it for the purpose in question, that is for making the ink dry quickly" (II, pp. 1105-6), then, in the words of this Court in *United Carbon Co.* v. *Binney and Smith Co.* (317 U. S. 228, 234), "what on first impression appears to be reasonable certainty" of definition "disappears" and Gessler's claims become nothing "but inaccurate suggestions of the functions of the product" with respect to a characteristic essential to novelty.* This Court has repeatedly held that such indefinite statements in claims do not satisfy the statutory requirement for definiteness and particularity. *United Carbon Co.* v. *Binney & Smith Co., supra; General Electric Co.* v. *Wabash Appliance Co.*, 304 U. S. 364, 369.

III. The Court of Appeals, in reversing the findings of fact of the District Court, failed to conform to Rule 52(a) of the Federal Rules of Civil Procedure.

The District Court's findings of fact appear at record Vol. II, pp. 1048-1049. These findings require the conclusions that the Gessler patent is invalid and was not infringed. Each is supported by the clear weight of the evidence. None is "clearly erroneous". In reversing the District Court, the Circuit Court of Appeals failed to conform to Rule 52(a) of the Federal Rule of Civil Procedure which states that "Findings of fact shall not be set aside unless clearly erroneous", and disregarded the decisions of this Court in *Davis* v. *Schwartz*, 155 U. S. 631, 636, and *Adamson* v. *Gilliland*, 242 U. S. 350, 353.

* So construed, Gessler's claims in suit, and the indefinite and functional claims refused him by the Patent Office (see for example claim 18 inserted by amendment August 29, 1934, II, p. 817), are identical and the effect of the decision below is to recapture for Gessler the claims he surrendered by amendment in order to obtain his patent. *Exhibit Supply Co.* v. *Ace Patents Corp.*, 315 U. S. 126, 136.

Conclusion

On the record in this case, the Writ of Certiorari should be issued to the Circuit Court of Appeals for the Second Circuit to the end that this cause may be reviewed and determined by this Court.

Respectfully submitted.

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